

### **REMARKS**

Claims 3, 5, 6, 13-20, 23-26 and 30-34 remain pending in the present application. Claim 4 is canceled pursuant to the objection issued by the Examiner in the outstanding Office Action. Claim 13 is amended to insert a missing term “sample” and to limit the fluidized bed reactor to a “gas-solid” reactor, basis for which is found at paragraphs [0004]-[0005]. Claim 30 is likewise amended. No new matter is entered.

Referring to the Examiner’s explanation of the interpretation/application of the Boyer et al. reference as set forth at pages 12-13 of the outstanding Office Action, the Examiner indicates that paragraph [0004] of the present application does not limit the definition of a gas-phase fluidized bed reactor to one having only a gas-solid phase, and as such the gas-liquid phases of Boyer et al. are interpreted to be within the definition.

In this regard, the Examiner’s attention is re-directed to paragraph [0004] of the present specification, wherein Applicants clearly indicate that

a bed of polymer particles is maintained in a fluidized state by means of an ascending gas stream including gaseous reaction monomer. (Emphasis added).

One of skill in the art would never refer to liquid droplets as “particles”, which are denoted to be solid. Likewise, paragraph [0005] indicates that the start-up of a fluidized bed reactor uses a bed of “pre-formed polymer particles”. Further in this paragraph, Applicants disclose that

The fluidized bed includes a bed of growing polymer particles, polymer product particles and catalyst particles. This reaction mixture is maintained in a fluidized condition by the continuous upward flow from the base of the reactor of a fluidizing gas...

Clearly this disclosure provides not only basis for the accompanying amendment which refers to the fluidized bed reactor as a “gas-solid” reactor, but also a clear distinction over any suggestion in the Boyer et al. reference, as relied upon by the Examiner in the outstanding Office Action. Notably, Boyer et al. fail to disclose or even suggest measurements in a fluidized bed reactor, a reactor well-known in the art to be a gas-solid phase reactor, despite the Examiner’s strained interpretation of Boyer et al. Certainly, if Boyer et al. intended to refer to gas-solid phase measurements, they would have used the art-accepted designation of “fluidized bed reactor”.

### ***Objection to the Specification***

At page 3 of the outstanding Office Action, the Examiner objects to the specification for failure to include Figs. 10 and 11, referred to in both the Brief Description of the Drawings [0035] and [0036], respectively, and at paragraphs [0166], [0167], [0169] and [0170].

Applicants submit herewith Figs. 10 and 11, which were either inadvertently omitted or lost during transmission of the present application. These figures find basis in parent application no. 10/492,442 (PCT/US2002/32767), of which this application is a continuation-in-part. No new matter is entered.

### ***Claim Objection***

The Examiner has objected to claim 4 as improperly dependent on claim 13. Applicants request withdrawal of the rejection in view of the accompanying amendment canceling claim 4.

### ***Declaration of Robert L. Long***

Applicants submit herewith the Declaration under 37 C.F.R. 1.132 of Robert L. Long (the Long Declaration) for the Examiner’s consideration as to the availability of WO 01/09203 as prior art to the present claims. The Declaration demonstrates that since the subject matter of WO 01/09203 (Long et al.), as relied upon by the Examiner in the

rejection below is the work of the declarant, and was published less than one year from the effective filing date of the present application, the Long et al. reference is unavailable under 35 U.S.C. §102 and therefore under 35 U.S.C. §103 as prior art.

Claims 3-6, 13-20, 23-26 and 30-34 are rejected under **35 U.S.C. § 103(a)** as obvious over Long et al. (WO 01/09203) in view of Geosoft (Geosoft Technical Note) and further in view of Boyer et al. (Chemical Engineering Science, v. 54, 8/2002, pp. 3185-3215).

Applicants request withdrawal of the rejection in view of the Long Declaration submitted herewith, which removes Long et al. as a reference.

Additionally, Applicants traverse this rejection, since Long et al. fail to disclose or suggest acquiring Raman spectra *in situ* from a gas-solid fluidized bed polymerization reactor, and Boyer et al. fail to disclose or even suggest measurements in a fluidized bed reactor whatsoever, as required by the independent claims.

Reconsideration and withdrawal of the rejection is requested in view of the accompanying amendment and in view of the failure of Boyer et al. to disclose or suggest measurements in fluidized bed reactors.

Claims 3-6, 13-20, 23-25 and 30-34 are rejected on the grounds of **nonstatutory obviousness-type double patenting** over claims 3-8, 10-12 and 15-21 of U.S. Patent No. 7,116,414 in view of Long et al. (WO 01/09203 – “WO ‘203”). Applicants traverse this basis for rejection, since the ‘414 Patent (the parent application/patent of the present application) fails to disclose *in situ* measurement, hence the C-I-P status of the present application, and Long et al. fail to disclose or suggest *in situ* measurement of gas-solid samples in a fluidized bed reactor.

Long et al. disclose only *in situ* Raman sampling of reactor constituents in a liquid phase (page 3, line 21, bridging to page 4, line 10; page 8, lines 5-7), and never suggest that such technique could be applied to gas-phase samples.

The Examiner contends:

It would have been obvious to one of ordinary skill in the art at the time of the instant invention to modify the process for determining polymer properties in a polymerization reactor system of '414 by use of the *in situ* probe of Long et al. wherein the motivation would have been that the location of the probe in the reactor allows for closer metering of reactor constituents [see abstract of Long et al.] (Office Action, page 15; emphasis added).

Applicants respectfully submit that the Examiner's conclusion amounts to an obvious-to-try standard of patentability, with no expectation of success in modifying the base reference in the manner suggested.

'[R]ejections on obviousness cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.'" *KSR*, 550 U.S. 398, \_\_\_; 82 USPQ2d at 1396. (Emphasis added).

As Applicants have previously stated, the skilled artisan would have had no expectation of success in conducting Raman spectroscopy on solid samples in a fluidized state, such as in *in situ* measurement in a fluidized bed reactor, as claimed herein. Notably in this regard, the '414 Patent indicates that the sampling process therein includes a step of capturing a sample in a sample chamber 202, at which point it is clear that the solid polymer particles are no longer fluidized (col. 12, lines 13-20). Thus, the '414 Patent sampling process results in a static sample. In contrast, Long et al. (WO '203) disclose *in situ* sampling of a liquid/solid slurry reactor (Fig. 4). As such, neither reference discloses or suggests that Raman spectroscopy can be conducted on a solid sample which is suspended (fluidized) in a flowing gas. Thus, the success of the Examiner's proposed modification of the '414 Patent claims according to the Long et al. disclosure is speculative at best, and not supported by a rational technical underpinning.

The mere fact that references can be combined or modified does not render the resultant combination obvious unless the results would have

been predictable to one of ordinary skill in the art. *KSR International Co. v. Teleflex Inc.*, 550 U.S. 398, \_\_\_, 82 USPQ2d 1385, 1396 (2007).  
**MPEP 2143.01 (III).** (Emphasis added).

Withdrawal of the double patenting rejection is requested on this basis.

Claims 3-6, 13-20, 23-25 and 30-34 are rejected on the grounds of **nonstatutory obviousness-type double patenting** over claims 1, 3-6, 9, 13-16, 22-25 and 34-36 of U.S. Patent No. 7,116,414 in view of Long et al. (WO 01/09203 – “WO ‘203”). Applicants traverse this basis for rejection, since the ‘414 Patent (the parent application/patent of the present application) fails to disclose *in situ* measurement, hence the C-I-P status of the present application, and Long et al. fail to disclose or suggest *in situ* measurement of gas-solid samples in a fluidized bed reactor, as set forth above. Boyer et al. add nothing to the rejection, as discussed above, since they entirely fail to recognize or suggest sampling of solids suspended in a gas phase.

Withdrawal of the double patenting rejection is requested on this basis.

Applicants earnestly solicit a notice of allowance as to the present claims.

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Response dated: August 31, 2010  
Reply to Office Action dated: June 9, 2010

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Applicants invite the Examiner to telephone the undersigned attorney, if there are any issues outstanding which have not been presented to the Examiner's satisfaction. If necessary to affect a timely response, this paper should be considered as a petition for Extension of Time sufficient to affect a timely response. Please charge any deficiency in fees or credit any overpayments to Deposit Account No. 05-1712. (Atty. Docket No. 2001B101B)

Respectfully submitted,

Date: August 31, 2010

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Attachments: Figs. 10 and 11  
Declaration under Rule 132

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